REMARKS

Applicant respectfully requests re-consideration of the application in view of the arguments presented below.

Summary of Office Action

Claims 1-26 are pending.

The Abstract was objected to.

Claims 1-6, 8-12, and 15-19 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,570,944 of Best, et al. ("Best").

Claims 1, 6 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,707,723 of Jeong ("Jeong").

Claims 7, 13 were rejected under 35 U.S.C. § 103 as being unpatentable over Best in view of U.S. Patent No. 6,681,301 of Mehta, et al. ("Mehta").

Claims 20-24, 26 were rejected under 35 U.S.C. § 103 as being unpatentable over Best in view of U.S. Patent No. 6,510,099 of Wilcox, et al. ("Wilcox").

Claim 25 was rejected under 35 U.S.C. § 103 as being unpatentable over Best in view of Mehta and Wilcox.

Claim 14 was indicated as being allowable if rewritten.

Summary of Amendments

The specification and Abstract were amended. Claims 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 were amended. Support for the amendments may be found, for example, at page 17, lines 21-page 19, line 14. Applicant submits that the amendments do not introduce new matter.

Response to Objection to the Abstract

The Abstract was objected to for having a word count that was not within a 50-150 word range. The Abstract has been amended. The amended abstract has a word count between 50-150 words. Applicant respectfully submits that the objection to the Abstract has been overcome.

Response to 35 U.S.C. § 102 rejections

Claims 1-6, 8-12, and 15-19 were rejected as being anticipated by Best. Claims 1 and 6 were also rejected as being anticipated by Jeong. Applicant submits that *neither Jeong nor Best teaches or suggests a method or apparatus requesting a strobe signal from the transmitting device, if no strobe signal has been received within a pre-determined time period.*

Jeong discloses method and apparatus for latching data in response to a strobe signal. Jeong includes a disclosure of synchronizing input data signals to clock signals by applying one of two delay periods to a strobe signal depending upon whether the strobe leads or lags the clock signal. (see, e.g., Jeong, col. 3, lines 31-45; col. 5, line 56- col. 6, line54; col. 7, lines 36-62; Fig. 4). Jeong does not teach or suggest requesting a strobe signal from a transmitting device, if no strobe signal has been received within a pre-determined time period.

Best discloses method and apparatus for latching data in response to a strobe signal. Best includes a disclosure of performing a "maintenance operation" to acquire phase information for generating a direct strobe for latching data in response to a received strobe. In some cases, the maintenance operation is performed in response to power state change transitions. There is no teaching or suggestion, however, that a power state

transition results in requesting a strobe signal from the transmitting device. Furthermore, the power state transition rather than any elapsed time period would appear to be the triggering event. (Best, col. 9, lines 16-33).

Best also discloses performing periodic types of maintenance operations triggered by a clock, counter, or interrupt mechanism. Best states "a hidden-refresh type of maintenance operation may be performed *in parallel* with a DRAM refresh operation." (Best, col. 9, lines 26-33, *emphasis added*). However, there does not appear to be any details of such a maintenance operation. Moreover, if such an operation is performed *in parallel* with a DRAM refresh, such an operation will be performed periodically *irrespective of whether a strobe signal has been received within a pre-determined time period.*

Thus applicant respectfully submits that *the cited references do not teach or suggest a method or apparatus requesting a strobe signal from the transmitting device, if no strobe signal has been received within a pre-determined time period.*

In contrast, amended claim 1 includes the language:

> 1. A method comprising:
> *requesting a strobe signal from a transmitting device, if no strobe signal has been received within a pre-determined time period;*
> generating a clock signal aligned relative to an edge of the strobe signal; and
> latching one or more data signals received from the transmitting device using the clock signal.

(Claim 1, as amended)(*emphasis added*)

Similarly amended claims 8 and 15 include the language:

> 8. An apparatus comprising:
> clock generation circuitry to generate a clock signal aligned relative to an edge of a strobe signal received from a transmitting device, *wherein the apparatus requests the strobe signal from the transmitting device if no strobe signal has been received within a pre-determined time period;*

control signal generation circuitry to generate one or more latch control signals aligned relative to an edge of the clock signal; and

latching circuitry to latch one or more data signals received from the transmitting device with one or more latch control signals.

(Claim 8, as amended)(*emphasis added*)

15. An apparatus comprising:

means for aligning a clock signal relative to a strobe signal, *wherein the apparatus requests the strobe signal from a transmitting device if no strobe signal has been received within a pre-determined time period;* and

means for latching one or more data signals using the clock signal.

(Claim 15, as amended)(*emphasis added*)

Thus applicant respectfully submits that claims 1, 8, and 15 are not anticipated by the cited references. Given that claims 2-7 depend from claim 1, claims 9-14 depend from claim 8; and claims 16-19 depend from claim 15, applicant respectfully submits claims 2-7, 9-14, and 16-19 are likewise not anticipated by the cited references.

Applicant respectfully submits that the rejections under 35 U.S.C. § 102 have been overcome.

Response to 35 U.S.C § 103 rejections

Claims 7, 13, and 20-26 were rejected as being unpatentable over various combinations of Best, Mehta, and Wilcox.

Applicant respectfully submits that claims 7, 13, and 20-26 are patentable for the same reasons presented above with respect to the 35 U.S.C. § 102 rejections. In particular, none of the cited references, alone or in combination, teaches or suggests *requesting a strobe from the transmitting device, if no strobe has been received within a pre-determined time period.*

The argument was presented above with respect to the 35 U.S.C. § 102 rejections. Wilcox appears to have been cited only for teaching memory

modules coupled to a processor and memory controller. Mehta appears to have been cited only for teaching that a memory provides a strobe signal with requested data in response to a memory controller data read request provided to the memory.

Even assuming *arguendo* that the cited references are combinable as suggested by the Examiner, neither Mehta nor Wilcox fulfills the deficiencies of Best. In particular, none of the cited references, alone or in combination, teaches or suggests *requesting a strobe from the transmitting device, if no strobe has been received within a pre-determined time period.*

In contrast, amended claims 1, 8, and 20 include the language:

> 1. A method comprising:
> *requesting a strobe signal from a transmitting device, if no strobe signal has been received within a pre-determined time period;*
> generating a clock signal aligned relative to an edge of the strobe signal; and
> latching one or more data signals received from the transmitting device using the clock signal.

(Claim 1, as amended)(*emphasis added*)

> 8. An apparatus comprising:
> clock generation circuitry to generate a clock signal aligned relative to an edge of a strobe signal received from a transmitting device, *wherein the apparatus requests the strobe signal from the transmitting device if no strobe signal has been received within a pre-determined time period;*
> control signal generation circuitry to generate one or more latch control signals aligned relative to an edge of the clock signal; and
> latching circuitry to latch one or more data signals received from the transmitting device with one or more latch control signals.

(Claim 8, as amended)(*emphasis added*)

> 20. A system comprising:
> one or more processors;
> one or more memory modules; and
> a memory controller coupled to one or more processors and to one or more memory modules, the memory controller having data signal reception latch control using a clock aligned relative to a strobe signal received from a memory module, *wherein the memory controller*

requests the strobe signal if no strobe signal has been received within a pre-determined time period.

(Claim 20, as amended)(*emphasis added*)

Thus applicant submits claims 1, 8, and 20 are patentable over the cited references. Given that claim 7 depends from claim 1, claim 13 depends from claim 8 and claims 21-26 depend from claim 20, applicant submits claims 7, 13, and 21-26 are likewise patentable over the cited references.

Applicant respectfully submits that the rejections under 35 U.S.C. § 103 have been overcome.

Conclusion

In view of the amendments and arguments presented above, applicant respectfully submits the applicable rejections and objections have been overcome. Accordingly, claims 1-26 as amended should be found to be in condition for allowance.

If there are any issues that can be resolved by telephone conference, the Examiner is respectfully requested to contact the undersigned at **(512) 858-9910.**

Respectfully submitted,

Date January 10, 2005 William D. Davis

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